Some Notes on Maori Agricultural and Earth-Working Implements.

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The main purpose of this paper is to describe certain wooden implements of the Maori that have recently been added to the collections in the Auckland Museum. It is hoped that this will assist students in other areas to make comparisons with material they possess, and possibly add something to our stock of knowledge concerning them. Too often specimens of interest to students of ethnology lie undescribed in our Museums, and a worker has no knowledge of their existence. It is necessary to have measurements, illustrations, notes concerning the locality of their origin, and deductions as to their possible use.

With regard to the nomenclature used, it is difficult at the present time to elicit any reliable information from the people concerning the names of the implements described, owing to the fact that these primitive implements were early displaced in most districts with more serviceable pakeha tools. Hence it is only a few old men who can supply the needed information. Consequently, for the most part, names applied by the late Mr. E. Best to similar implements in his excellent article on "Maori Agriculture," in the Dominion Museum Bulletin, No. 9 have been used.

The majority of the articles dealt with have been discovered in swamps, which demonstrates the fact that they are of considerable age, even though in some cases it might be difficult to say definitely whether they were pre-pakeha or not. The use to which certain implements of the shovel type were put must be largely a matter of conjecture, as very little information can be gleaned from Maori sources. It is probable that most were used for agricultural purposes though one or two may have been used in digging out, or shaping the earthworks of which there are so many remnants in New Zealand.

IMPLEMENTS OF THE TIMA TYPE.

Of the implements known as *tima, timo,* or *timotimo* very few examples have been preserved in Museums. The *tima* was definitely used for agricultural purposes, as various writers have mentioned. When in use, the worker adopted a squatting attitude, and used the *tima* as a grubber for loosening soil around growing crops, such as *kumara,* or to enable weeds to be removed more easily. On one occasion an elderly native, after being questioned concerning the manner in which the *tima* was used, proceeded to demonstrate in typical Maori fashion. Placing his watch on the floor, he assumed a squatting position, *tima* in hand, while he industriously loosened imaginary weeds which were supposed to be growing around the watch, *alias* the *kumara* plant.

The Auckland Museum possesses three specimens, all recently acquired. The Dominion and Wanganui Museums have each six specimens, Canterbury two and New Plymouth one. Mr. J. H. Burnet, Director of the Wanganui Museum, informed me that the *tima* "was still in use on the upper Wanganui River, or was until recently."

The dimensions of the specimen illustrated in Plate 9, Fig. 1, are as follows: Length of handle, 3 feet 6 inches; length of blade, 1 foot 10 inches. The diameter of the handle is two inches at the point of junction with the blade, tapering to ¾ of an inch at the bottom. A decided curve is noticeable in the handle. The blade tapers steadily to a rather blunt point. It was found under a house at Orakei.

The dimensions of that figured on Plate 9, Fig. 2, are as follows: Length of handle, 2 feet 10 inches; diameter of handle, 1¾ inches at the head, but tapering towards the bottom; length of blade, 1 foot 5 inches, and 1 inch in diameter, tapering to a sharp point. It was formerly the property of a native at Awataha, Shoal Bay, Auckland.

Both of these specimens are somewhat crude, and have not the finished appearance of the third illustrated (Plate 9, Fig. 3). Nevertheless, they were evidently considered suitable for the purpose in hand. It is interesting to note that the blade in Fig. 2 is just half the length of the handle, while in Fig. 1 it is just slightly more than half. In all the typical examples figured by Best, the blade is as long as, or longer, than the handle. In Plate 9, Fig. 3, we have a more typical example. Considerable care has been bestowed in fashioning and shaping it to the required size. The point of the blade is definitely flattened, while the bottom of the handle terminates in a slight knob, which enabled the cultivator to secure a firmer grip of the implement. This specimen has evidently been fashioned with steel tools.

The dimensions are as follows:

Handle, 1 foot 2½ inches long and 1 inch in diameter. The blade is 11 inches long. This would be a much more serviceable implement than either of the other two described. A fact worthy of notice is that none of these specimens show any signs of carving. So far as is known, only two carved specimens exist, one in the Dominion Museum, the other in the Canterbury Museum. This would lead us to infer that implements of this class were not highly valued, hence it was seldom that an owner troubled to ornament them with a carved design.

Mr. Best pointed out that the *tima* was used more particularly "for loosening soil too hard to be worked with a broad bladed tool." Usually implements of the *tima* type were made from a forked branch.

Mr. Best reproduces, in the Polynesian Journal, an illustration from "Wonders of the Past," which shows that the dwellers on the Nile used a similarly shaped implement 3,000 years ago.

Leaving the *tima,* let us now consider a few implements of the *kaheru* type. Plate 8, Fig. 1, shows an interesting specimen found in a swamp at Waiuku. The total length is 3 feet 7 inches; length of blade 1 foot 2¾ inches, width 5 inches, and ¼ to ½ inch thick. This specimen is practically flat at the back, but has a slightly raised ridge in the front, which continues about one-third of the length of the blade. The handle is straight, except for a natural bend, which commences three inches from the top. There is a complete absence of carving.

The blade and handle are cut out of the solid. This specimen is evidently very old and shows signs of considerable use. It is interesting to note that Mr. Best figures an almost identical specimen in Dominion Museum Bulletin, No. 9, Fig. 17A, No. 4. The measurements correspond, and it is similar in shape, but lacks the bend at the top, while at the point of junction of the handle and blade it tapers more than the specimen figured here. Mr. W. H. Skinner informs me that the *kaheru* figured in the Dominion Museum Bulletin "was found in a swamp at Pungarehu, near Parihaka." Mr. Best says of this particular type of *kaheru* "that they are by no means common forms." Actually, the specimen described above is the only one of its type in the Auckland Museum collection. It suggests certain points of resemblance to a type of *kaheru* often called *pere* or *tipi,* which has a detachable blade. In all probability it was only used for light work, such as loosening weeds around growing crops.

In Plate 8, Fig. 2, we have a much more common type, and similar specimens are occasionally seen in collections. It was also found in a swamp at Puni. The total length is 3 feet 10½ inches; length of blade 2 feet, width 4¾ inches at the widest part. The handle is 1¾ inches wide.

It has evidently lain in the swamp for a considerable period, though probably made in comparatively recent times. The blade is rather thin and shows signs of decay towards the top. An implement such as this would last a considerable time in use, especially when we remember that for the most part it would only be used after the ground had been loosened with the *ko,* or digging stick.

The next specimen to be considered (Plate 9, Fig. 4) resembles the one just described in the shape of the blade; but has evidently been used for much heavier work. The two knobs carved at intervals along the handle are unusual features. It would seem they had been so carved to serve as hand-grips, thus enabling the worker to use the implement to better advantage. They are certainly spaced at a suitable distance for this purpose. When handled, the impression gained is that it would be rather a cumbersome implement to use. It is of recent make, though it has seen some wear. The weight would seem to preclude the possibility of its use as an agricultural tool. It is much more likely to have been used by toilers engaged in constructing earthworks for a *pa.* Against this supposition there is the fact that it was found in a swamp, though even this does not carry conviction of its being an agricultural implement.

The total length is 5 feet 6 inches; length of blade 2 feet 7½ inches, width of blade at the widest part 6 inches. At a distance of 4½ inches above the blade is a knob 2¼ inches wide and 2 inches thick, while 10½ inches above the first knob is another 1½ inches wide and 1¾ inches thick.

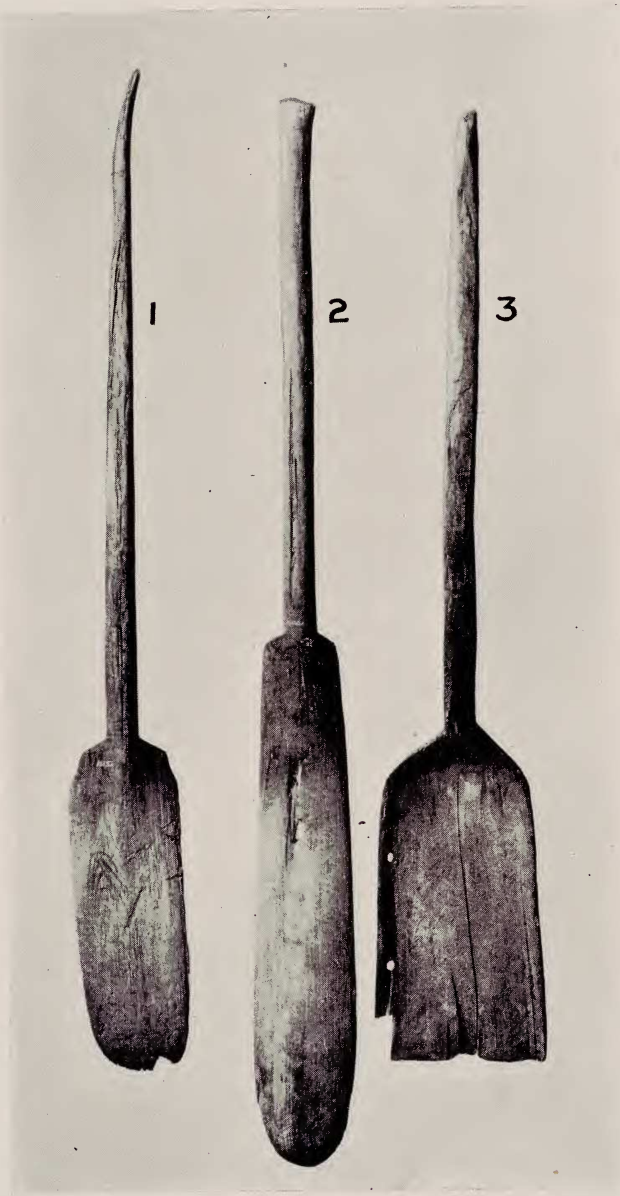
We have a very interesting specimen in Plate 8, Fig. 3. This was found on Mr. M. Buckland's property, Omokoiti, Kaipara, during drainage operations. It may be referred to the class known as *koko,* or shovel.

The total length is 3 feet 5 inches. The blade is 1 foot 2½ inches long and varies in width from 6 inches at the top to 7 inches at the bottom. There is also a rim ¾ inch high along the two outer edges.

A portion of the handle has been broken off at the top. At one side, just where the rim merges into the blade, are two roughly made holes ⅜ inch in diameter. It would appear that these were for the purpose of lashing another piece of wood thereto, though for what purpose it is hard to conceive. None of the specimens figured by Mr. Best in the Dominion Museum Bulletin shows any sign of holes on the side. Another specimen of a shovel in the Auckland Museum has, however, three holes bored on each side, with some of the original lashing still attached. Possibly another piece of wood was lashed to the rim, thus enabling more soil to be shifted.

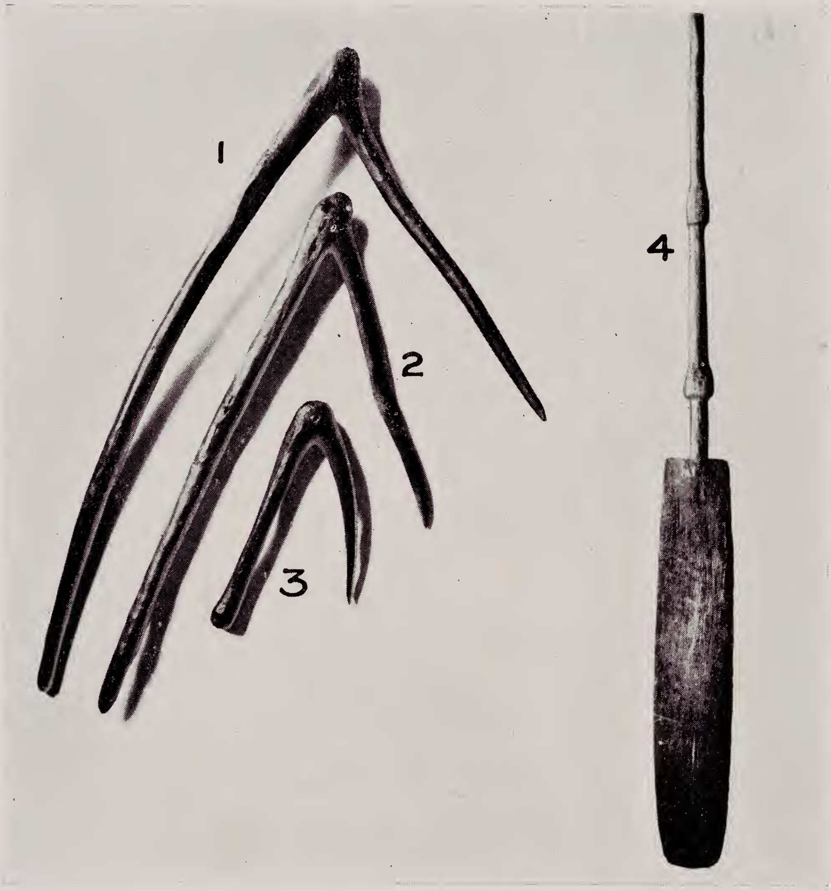
It is to be expected that greater numbers of implements similar to those described in this article will be discovered in country districts when drainage operations are in progress. It is to be hoped that owners will realise the value and interest attached to such relics, and will take steps to have them deposited where they will be safely preserved. There certainly is a great diversity of form in these and allied types. In this connection it might be possible to assign certain types to definite tribal areas, if sufficient numbers were available for comparison.

In conclusion I should like to record my appreciation for the information supplied by the following gentlemen, in addition to those already mentioned: Professor R. Speight, Messrs. W. R. B. Oliver, and H. D. Skinner.



Figs. 1, 2. Implements of the *kaheru* type.
Fig. 3. A *koko,* or shovel.

Plate 9.



Figs. 1, 2, 3. Specimens of the *tima*.
Fig. 4. A *kaheru* with two knobs carved on the handle.